REMARKS/ARGUMENTS

Claims 1 and 4-39 are active.

Claim 1 is amended to define the ratio of Si/Zr as previously presented in claim 2, which is now cancelled.

The remaining amendments are for clarity.

No new matter is added.

The claims of this application are directed to a transparent substrate having an antireflection coating. A particular feature of this laminate is that at least one of those layers, in particular the high refractive index layer, comprises a mixed silicon zirconium nitride having a specified ratio of the Si and Zr. According to the specification on page 8 this selection of material provided advantages contrary to what was previously known about zirconium nitride as particularly absorbent when mixed with silicon nitride. The examples in the application use zirconium silicon nitride compared to other laminates having silicon nitride (examples 1 and 2 versus 3 and 4) in which the advantages of the zirconium silicon nitride are summarized on page 18, last 2 paragraphs which discusses the prevention of color in reflection from being greatly modified as the angle of incidence varies and can undergo heat treatment without impairing the optical properties. Further comparative data demonstrating improved performance is shown in examples 6 and 7 (page 25), example 8 for solar protective performances (page 26) and the table on page 29 using aluminum zirconium nitride as comparative material.

In the Official Action, the Examiner has rejected the claims as being obvious in view of WO 01/37006 (Joret) using the U.S. equivalent, US patent number 6,924,037 combined with Wolfe, US patent number 5,563,734. The Wolfe patent is also cited by itself (see page 6 of the Official Action) and both Joret and Wolfe are further combined with other publications to allege that certain dependent claims are obvious.

Joret does describe a transparent substrate with antireflective coatings but as acknowledged in the Official Action does not describe a mixed silicon and zirconium nitride material as a high refractive index layer. For this, the Examiner cites the Wolfe patent which suggests the possibility that a composite film containing zirconium nitride and silica nitride may be used (see column 3, lines 13-18). Claims 12, 13, 16 and 20-22 are rejected as obvious in view of the Wolfe patent primarily also based on the disclosures of the composite film containing zirconium nitride and silicon nitride in column 3.

As acknowledged by the Examiner on page 5, 1st paragraph of the Action (see also page 6 in the rejection citing Wolfe alone), neither Joret nor Wolfe describe the ratio of Si/Zr. Notwithstanding this deficiency, the rejection alleges that the ratio would have been obvious because it "is considered a result effective variable."

As stated in MPEP § 2144.05: "A particular parameter must first be recognized as a result-effective variable, i.e., a variable which achieves a recognized result, before the determination of the optimum or workable ranges of said variable might be characterized as routine experimentation" (citations omitted). However, what Wolfe describes in col. 3 does not actually give any indication that the parameter in question here (the percentage of zirconium within the high index layer is such that Si/Zr is 4.6 and 5--see Claim 1) is a result-effective variable. All that Wolfe describes is "The refractive index of the composite films will vary depending on the relative amounts of the different nitrides that comprise each film." How is this any indication that the percent of Zr is a result-effective variable? It does not and as such a the claims would not have been obvious in view of the citations, alone or in combination, as set forth in the Action.

As explained above, the examples in the application use zirconium silicon nitride compared to other laminates having silicon nitride (examples 1 and 2 versus 3 and 4) in which the advantages of the zirconium silicon nitride are summarized on page 18, last 2

paragraphs which discusses the prevention of color in reflection from being greatly modified as the angle of incidence varies and can undergo heat treatment without impairing the optical properties. Further comparative data demonstrating improved performance is shown in examples 6 and 7 (page 25), example 8 for solar protective performances (page 26) and the table on page 29 using aluminum zirconium nitride as comparative material. Also attached is a Declaration presenting additional information as to the importance of the ratio between 4.6 and 5.

Applicants submit that the silicon zirconium nitride material provides improved performance as well as mechanical durability would not have been expected from what was known about the material prior to the present application.

In view of the above, it is requested that all of the rejections under 35 USC 103(a) be withdrawn.

A Notice of Allowance is also requested.

Respectfully submitted,

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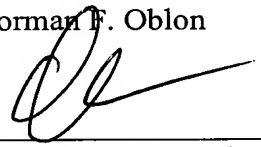

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